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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/566,750	02/01/2006	Yuichiro Shindo	OGOSH45USA	9947
270	7590	11/12/2008		
HOWSON AND HOWSON SUITE 210 501 OFFICE CENTER DRIVE FT WASHINGTON, PA 19034			EXAMINER STALDER, MELISSA A	
			ART UNIT 1793	PAPER NUMBER
			MAIL DATE 11/12/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/566,750	<b>Applicant(s)</b> SHINDO ET AL.	
	<b>Examiner</b> MELISSA STALDER	<b>Art Unit</b> 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,7 and 9-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,7 and 9-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>01-23-07</u> .  | 6) <input type="checkbox"/> Other: _____                          |

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## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 9 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 9 and 12 appear to claim copper sulfate in water but depend from Claims 1 and 7 which claim copper sulfate and a method of making copper sulfate. It is not clear how Claims 9 and 12 further limit.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sacham (US 5,240,497) in view of Piret (US 4,030,990).

Shacham teaches a high purity copper sulfate that has a purity of 99.999% (Example 1). Shacham does not teach the ppm of impurities remaining in the copper sulfate.

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Piret teaches in a copper recovery process the removal of Ag, As, Sb, Bi, Fe, and Ni from a copper sulfate solution (abstract). Piret also does not teach the ppm of the impurities remaining. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to remove these metalloid impurities to as low of concentration as possible because Piret teaches that As, Sb, and Bi are disturbing factors that deteriorate the conductivity of copper (col. 1, lines 14-20; col. 1, lines 28-36; col. 2, lines 3-10). Additionally, Piret teaches that other constituents, such as nickel need to be kept at a minimum. Finally, case law has held that “where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable range by routine experimentation” *In re Allen, Lacey, and Hall*, 20 F.2d 454 (U.S. Court of Customs and Patent Appeals 1955) (*citing In re Swain et. al.*, 156 F.2d 239).

Regarding claim 9, the impurities or the undissolved residues of the process are either inherent using the claimed method of purification or they are an obvious modification. Case law has held that “where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable range by routine experimentation” *In re Allen, Lacey, and Hall*, 20 F.2d 454 (U.S. Court of Customs and Patent Appeals 1955) (*citing In re Swain et. al.*, 156 F.2d 239). Therefore, the current claims are obvious in that mere optimization of a known process does not involve an inventive step.

Claims 7, 8, 10, and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hughes (US 4,908,242) in view of Chen (US 5,059,403), Shacham (US 5,240,497) and Piret (US 4,030,990).

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Hughes teaches a copper sulfate purification process where the copper sulfate is dissolved in solution and diffused through a membrane into a plating solution (col. 6, lines 37-48). The solution can undergo carbon treatment (col. 11, lines 51-57) and copper crystals grow with the solution is under cathodic control (col. 9, lines 50-53). Hughes does not teach the use of lower purity copper sulfate or removal of specific metalloid elements to within a certain amount.

Chen teaches that that a crude copper sulfate produce has a purity of 99.8% (col. 5, lines 42-45) which is close to that 99.5%. It would have been obvious to one of ordinary skill in the art at the time of the invention to purify the copper sulfate of Chen using the process of Hughes because Chen teaches that the copper sulfate can be further processed.

Shacham teaches a copper sulfate at 99.999% (Example 1).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the process of Hughes to produce a compound of 99.999% purity as in Shacham because Shacham teaches that this copper sulfate can be used for electroless deposition.

Piret teaches in a copper recovery process the removal of Ag, As, Sb, Bi, Fe, and Ni from a copper sulfate solution (abstract).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the process of Hughes with the impurity removal of Piret because Piret teaches that the recovered copper can be used for electrolytic purposes.

These references do not teach the exact ppmwt of the impurities or the undissolved residues of the process. However, these parameters are anticipated by the prior art in that they are either inherent using the claimed method of purification or they are an obvious modification. Case law has held that “where the general conditions of a claim are disclosed in the prior art, it is

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not inventive to discover the optimum or workable range by routine experimentation" *In re Allen, Lacey, and Hall*, 20 F.2d 454 (U.S. Court of Customs and Patent Appeals 1955) (*citing In re Swain et. al.*, 156 F.2d 239). Therefore, the current claims are obvious in that mere optimization of a known process does not involve an inventive step.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Clark (US 2,871,116).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MELISSA STALDER whose telephone number is (571)270-5832. The examiner can normally be reached on Monday-Friday, 8:00-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Melvin Curtis Mayes can be reached on 571-272-1234. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

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like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MS

October 30, 2008

/Melvin Curtis Mayes/  
Supervisory Patent Examiner, Art Unit 1793